



PANDEMIC INFLUENZA U • P • D • A • T • E



Public Health Prepares

May 2006

Fast Facts

Pandemic Planning Assumptions . . .

Most, if not all, people will be susceptible to the pandemic influenza virus.

The clinical disease attack rate will likely be 30% or higher in the overall population during the pandemic. Illness rates may be highest among school-aged children and decline with age. Among working adults, an average of 20% will become ill during a community outbreak.

Some persons will become infected but not develop clinically significant symptoms. Asymptomatic or minimally symptomatic individuals can transmit infection and develop immunity to subsequent infection.

If you are asked . . .

"What can I do to protect my family and me from being infected with H5N1 from wild birds?"

First, influenza A (H5N1) viruses have not been detected in the United States, either among domestic poultry or wild birds. At present, there are no documented cases of human H5N1 infection caused by contact with live wild birds. As a general rule, however, the public should observe wildlife, including wild birds, from a distance. This protects you from possible exposure to pathogens and minimizes disturbance to the animal. Avoid touching wildlife. If you do have contact with wildlife, do not rub your eyes, eat, drink, or smoke before washing your hands with soap and water. Do not pick up diseased or dead wildlife. Contact your state, tribal, or federal natural resource agency if sick or dead animals are found. If you must dispose of a dead bird, pick it up with an inverted bag or disposable glove; place the bird in another bag and dispose of the bag in the trash. Trash receptacles should be secured so that children, pets and animals do not have access to them. Wash hands thoroughly with soap and water.

Public Health Prepares . . .

HHS Awards Contracts Totaling More Than \$1 Billion to Develop Cell-Based Influenza Vaccine

HHS recently awarded more than \$1 billion to accelerate development and production of new technologies for influenza vaccines within the United States. These five contracts support the advanced development of cell-based production technologies for influenza vaccines and will help to modernize and strengthen the nation's influenza vaccine production by creating an alternative to producing influenza vaccines by using eggs. These funds are part of \$3.3 billion proposed by the President and appropriated by Congress to HHS for fiscal year 2006 to help the nation prepare for a pandemic.

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Cell-based vaccine manufacturing — a technology that is used in many other modern vaccines — holds the promise of a reliable, flexible and scalable method of producing influenza vaccines. Currently licensed influenza vaccines are produced in specialized chicken eggs in a technique that has changed little in over 50 years. With increasing demand for seasonal influenza vaccine and with the looming threat of a pandemic, a system that allows surge capacity in an emergency is needed.

Using a cell culture approach to producing influenza vaccine offers a number of benefits. Vaccine manufacturers are able to bypass the steps needed to adapt the virus strains to grow in eggs. In addition, cell culture-based influenza vaccines will help meet surge capacity needs in the event of a shortage or pandemic, since cells may be frozen in advance and large volumes grown quickly. Licensure and manufacture in the U.S. of influenza vaccines produced in cell culture also will provide security against risks associated with egg-based production, such as the potential for egg supplies to be unavailable as a result of various poultry-based diseases. Finally, the new cell-based influenza vaccines will provide an option for people who are allergic to eggs and therefore unable to receive the currently licensed vaccines.

The following awards were announced today:

Company	Funding Amount
GlaxoSmithKline	\$274.75 million
MedImmune	\$169.46 million
Novartis Vaccines & Diagnostics	\$220.51 million
DynPort Vaccine	\$40.97 million
Solvay Pharmaceuticals	\$298.59 million
Total	\$1.004 billion

Developing improved vaccines and enhanced vaccine production capacity are top objectives laid out in the President's National Strategy for

Pandemic Influenza. That plan and additional information are available at www.pandemicflu.gov.

Update on H5N1: Global Activity Humans and Birds (As of May 22, 2006)

Humans: During recent outbreaks since 2004, there have been 217 confirmed cases in humans and 123 deaths. They occurred in the following nations: Vietnam 93 cases and 42 deaths; Thailand 22 cases and 14 deaths; Indonesia 41 cases and 32 deaths; China 18 cases and 12 deaths; Cambodia 6 cases and 6 deaths; Turkey 12 cases and 4 deaths; Iraq 2 cases and 2 deaths; Azerbaijan 8 cases and 5 deaths; Egypt 14 cases and 6 deaths; Djibouti 1 case.

Birds: Since December 2003, avian influenza A (H5N1) infections in poultry or wild birds have been reported in the following regions/countries: ASIA (Cambodia, China, Hong Kong, India, Indonesia, Laos, Malaysia, Myanmar, Pakistan, Thailand, and Vietnam); CENTRAL ASIA and the MIDDLE EAST: Afghanistan, Azerbaijan, Georgia, Iraq, Iran, Israel, Jordan, Kazakhstan, Palestine Autonomous Territories, and Turkey; AFRICA: Egypt, Burkina Faso, Cameroon, Cote D'Ivoire, Niger, Nigeria, and Sudan; EUROPE: Albania, Austria, Bosnia/Herzegovina, Bulgaria, Croatia, Czech Republic, France, Denmark, Germany, Greece, Hungary, Italy, Poland, Romania, Russia, Siberia and Montenegro, Slovakia, Slovenia, Sweden, Switzerland, Ukraine, and United Kingdom.

CDC Recommends . . .

Interim Guidance for Protection of Persons Involved in U.S. Avian Influenza Outbreak Disease Control and Eradication Activities

CDC continues to deploy to areas where H5N1 outbreaks are occurring. CDC developed interim recommendations based on what are deemed **optimal** precautions for protecting individuals involved in the response to an outbreak of high pathogenic avian influenza from illness and the risk of viral reassortment (i.e., mixing of genes from human and avian viruses). The health risk to

humans from low pathogenic avian influenza viruses is less well established, but is likely to be lower. Nonetheless, it is considered prudent to take all possible precautions to the extent feasible when individuals have contact with birds infected by any avian influenza virus as part of control and eradication activities. The following is a portion of the interim guidance which can be found at www.pandemicflu.gov.

Basic Infection Control

- Educate workers about the importance of strict adherence to and proper use of hand hygiene after contact with infected or exposed poultry, contact with contaminated surfaces, or after removing gloves. Hand hygiene should consist of washing with soap and water for 15-20 seconds or the use of other standard hand-disinfection procedures as specified by state government, industry, or USDA outbreak-response guidelines.
- Ensure that personnel have access to appropriate personal protective equipment (PPE), instructions and training in PPE use, and respirator fit-testing.

Personal Protective Equipment

- Disposable gloves made of lightweight nitrile or vinyl or heavy duty rubber work gloves that can be disinfected should be worn. To protect against dermatitis, which can occur from prolonged exposure of the skin to moisture in gloves caused by perspiration, a thin cotton glove can be worn inside the external glove. Gloves should be changed if torn or otherwise damaged. Remove gloves promptly after use, before touching non-contaminated items and environmental surfaces.
- Protective clothing, preferably disposable outer garments or coveralls, an impermeable apron or surgical gowns with long cuffed sleeves, plus an impermeable apron should be worn.
- Disposable protective shoe covers or rubber or polyurethane boots that can be cleaned and disinfected should be worn.

- Safety goggles should be worn to protect the mucous membranes of eyes.
- Disposable particulate respirators (e.g., N-95, N-99, or N-100) are the minimum level of respiratory protection that should be worn. This level or higher respiratory protection may already be in use in poultry operations due to other hazards that exist in the environment (e.g., other vapors and dusts). Workers must be fit-tested to the respirator model that they will wear and also know how to check the face-piece to face seal. Workers who cannot wear a disposable particulate respirator because of facial hair or other fit limitations should wear a loose-fitting (i.e., helmeted or hooded) powered air purifying respirator equipped with high-efficiency filters.
- Disposable PPE should be properly discarded, and non-disposable PPE should be cleaned and disinfected as specified in state government, industry, or USDA outbreak-response guidelines. Hand hygiene measures should be performed after removal of PPE.

Detailed information on respiratory protection programs is provided at:

www.osha.gov/SLTC/etools/respiratory/index.html and www.cdc.gov/niosh/topics/respirators/.

Where to Learn More . . .

New Teams Join Network to Model Pandemic Flu, Other Infectious Outbreaks

Four new scientific teams joined an international research network developing computer-based simulations of pandemic flu and other infectious disease outbreaks, the National Institute of General Medical Sciences (NIGMS), a component of the National Institutes of Health, announced today.

The new MIDAS awards will support researchers at:

- The University of California, Irvine, and the Centers for Disease Control and Prevention in Atlanta, Ga. This group will analyze past transfers of flu from birds to people and model the effects

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of rapid pathogen evolution on strategies for disease surveillance, prediction, and control.

- The Harvard School of Public Health in Boston, the University of Hong Kong, the National Institute of Public Health and the Environment in the Netherlands, and the University of Washington in Seattle. This team will use mathematical models to explore mechanisms of transmission, evaluate public health measures, and design methods for monitoring the early stages of an outbreak in real time.
- The University of Pennsylvania School of Veterinary Medicine in Philadelphia and the University of Warwick in the United Kingdom. This team will develop spatial and temporal models of infectious animal diseases, particularly those like avian influenza that can cross species barriers to infect people.

- Harvard Pilgrim Health Care, Harvard School of Public Health, and Brigham & Women's Hospital, all in Boston; Kaiser Permanente Northern California in Oakland; and the National Institute of Infectious Diseases in Argentina. This group will develop ways to identify new clusters of emerging infectious diseases and track antimicrobial resistance in hospitals and ambulatory settings. It also will optimize strategies for using patient care data from large health systems in infectious disease models.

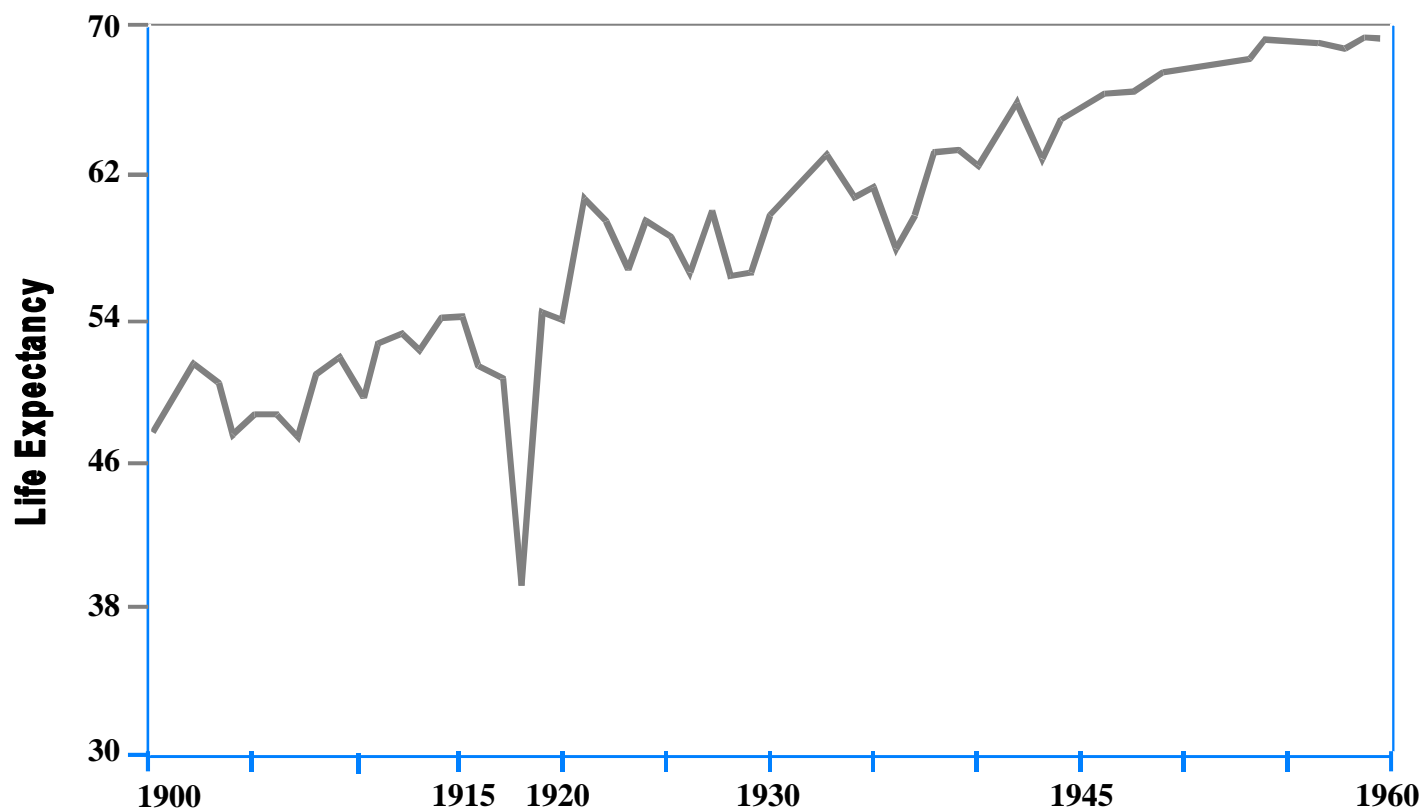
For more information about MIDAS, visit

<http://www.nigms.nih.gov/Initiatives/MIDAS/>.

Pandemic Influenza Update: Reader's Feedback

NOTE: The Pandemic Influenza Update will be published once a month beginning March, 2006. It is prepared by CDC's OEC. Information in this newsletter is time sensitive and evolving. Readers are welcome to comment by email to PANUPDATE@CDC.GOV

U.S. Life Expectancy 1900-1960



Effect of the 1918 pandemic on life expectancy

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